

Building a Rose Float: A Unique Cal Poly Experience

Cal Poly Pomona University Library

Building a Rose Float: A Unique Cal Poly Experience Summary

Actor Raymond Burr narrates this recording about, an annual tradition at the Cal Poly Pomona and Cal Poly San Luis Obispo campuses since 1949. Rose Floats are featured in the Pasadena Tournament of Roses Parade, which dates back to 1893 and is today televised all over the world. In addition to his contributions to the parade, Mr. Burr is noted for his donation of an orchid collection and three greenhouses to Cal Poly Pomona.

Subject Headings

California State Polytechnic University, Pomona
Tournament of Roses

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Table of Contents

	<u>Page</u>
Introduction	1
Designing and Building the Float	2
Transporting the Float and Judging	3

Building a Rose Float: A Unique Cal Poly Experience

September 11, 1984

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Transcribed by Caryn Romo*

RB: Pasadena's Colorado Boulevard, site of the spectacular Tournament of Roses Parade. Each New Years' Day, this busy thoroughfare becomes center stage for the colorful pageant that commands worldwide attention. A million and a half spectators' line the parade route. Another one hundred and thirty million enjoy the parade on T.V. as sixty self-propelled floats, interspersed with colorful marching bands and handsome equestrian units vie for coveted awards.

This is the unique story of Cal Poly's annual Rose Parade entry. A story of youthful exuberance and ingenuity; of volunteerism and commitment; of year-long planning, and meeting deadlines while working in cooperation with others. Above all, it's a story of learning and growing through hands-on experiences and involvement.

Cal Polys' float is particularly unique in this highly competitive tournament that began in 1894. It is the only float that is entirely funded, designed, constructed, and decorated by an all-volunteer group of students. Even the majority of flowers that cover its massive surface are planted, nurtured, and harvested by the students. The float is a joint project bringing together California's two independent polytechnic universities, and even though more than two-hundred miles separate the campuses of Pomona and San Luis Obispo, the students successfully merge their efforts into award winning entry's year after year. By parade time, approximately twenty-five thousand hours of student time will be donated to this effort. For most of these volunteer students, there will be no class credit toward it, but the long hard hours of work will provide learning and growth that is unattainable in the classroom. The real world, real time demands of this project leave a lasting imprint on all who participate. Many long-term relationships are built, with some even resulting in marriage. Practical, hands-on experiences abound. Engineers see their drawings turned in to working mechanisms. Business majors may learn to weld. English majors may program a computerized robot; everyone gains.

Planning and recruitment begin each February, when the new student committees are formed on each campus. In March, after the current parade theme is announced, the float design contest is launched on both campuses. The final design is selected at a combined conference of the two student committees. A full weekend is spent pouring over the hundred or more competing designs. Each is closely scrutinized, for theme interpretation, use of animation, originality and humor. The student judges are mindful of the winning traditions that precedes them. They want to add their own major banner award to the impressive list of winners that's been gathered since Cal Polys' first entry in 1949. Once a design has been selected, an artist rendering is completed, and a scale model constructed. The model builders strive for accuracy in every detail in order to anticipate construction and animation problems.

In April, the flower fields are groomed and fumigated. Cuttings from last year's flower stocks are also prepared for green house nurturing. Planting follows in late May, and early June. Acres of mums, coengelas, carnations, zinnias, and bachelor buttons are needed to cover the float. The flowers will be continually tended until their December blossoming time.

With the arrival of summer, school is out for most students, and the engineering of the float begins in earnest with development of highly detailed structural drawings. Color illustrations of the main features are also drawn. Material requirements are calculated, and the gathering of necessary structural material begins. Contacts with former equipment and material donors are renewed and new donors are actively pursued. In September, training and orientation sessions are held for newly recruited student volunteers. Work teams are formed, and construction work begins.

The mobile platform is built first. This massive steel frame must be modified each year to conform to the new configuration of the winning design. A two-hundred fifty horsepower industrial V-8 engine donated by a major automobile manufacturer is installed and harnessed to several hydraulic pumps which in turn propel the float and many of its animation devices.

Animation has been an award-winning feature of Cal Polys floats for many years. Often, the design incorporates up to fifty distinct moving parts. Each of these elements are controlled and sequenced by a donated microcomputer, creating a wide variety of movements which lend interest and humor to the float's appearance. A separate generator engine, three miles of electrical wiring, and over a thousand feet of pipe and hoses are used to power and link the computer, electric motors, and hydraulic devices that produce the animated movements. The skills and techniques learned and developed through producing these animated features have direct application to the fast-growing field of robotics. The inter-workings of each moving part must be hand crafted. Their hinged joints and hydraulic lines often take on a skeletal appearance, suggesting the shapes that will emerge once the outer skins are formed and applied.

The exterior forms are also painstakingly crafted. First, pencil size steel rods are bent and fabricated to establish basic shapes. Next, chicken wire or window screening is attached to the rods. Plywood and Styrofoam materials are also used to sculpt the floats wide variety of shapes. Occasionally during the year, social events are organized. Picnics, outings, and seasonal parties help maintain team spirit and relieve the building pressure of the ensuing deadline.

Throughout October and November, the construction teams at each campus work every Saturday as well as many weekday evenings, and Sundays. Late in November, sections that have been built at Cal Poly San Luis Obispo, are transported to the Pomona campus and merged with the super structure; a major test of the precision engineering, planning and coordination that has taken place over the past nine months.

In early December, classes at the university are dismissed for the holidays, and the pace picks up significantly. Students often put in an eighteen to twenty-hour day. Many will work around the clock to meet their commitment. Countless personal sacrifices are made as the holiday season quickly approaches. By this time, the float is a gigantic tangle of metal wire, pipes and hoses, about to be magically transformed by the application of an outer covering. Excitement builds as the cocooning process begins. Images seen only in drawings and imagined for eight months

begin to emerge as a rubber latex skin is applied. The cobweb like material is sprayed on layer after layer, filling the holes of the wire mesh and screening. The float slowly but surely begins to look like something other than an engineering nightmare. Its final form is now clearly recognizable; but a great deal of work remains. The white cocoon skin must now be color coded. Each color detail of the floats design is painted on the latex cocoon surface. The color serves as guides for those who will soon be applying flowers and other forms of vegetation to every square inch of the floats visible surface.

A few days before Christmas, between the hours of midnight and six a.m., the float is slowly moved over twenty-five miles of surface streets from Pomona to one of the tournament flowering facilities in Pasadena, it's a long, tense night for the builders. Meanwhile, forty to fifty students are working diligently at the flower harvest. Each variety of flower is cut, sorted, bundled, and refrigerated to retain its freshness. Around December 27th, the flower decoration begins. It is a tedious, mind-numbing, repetitive task that never seems to end. The heartier flowers are popped from their stems and immediately applied with a special preservative glue. Seeds and a variety of other plant materials are also applied. The more delicate flowers, they save for the last moment, then placed in tiny, individual water vials to preserve their freshness for the day of the parade.

Four long days and nights later, the six-thousand square foot skin is covered with over two-hundred, fifty-thousand flowers. Almost all color detail is in place; the float is nearly complete. In the early morning hours, before final judging begins, attention is focused on the fine-tuning of the computer program which controls the all-important animation affects. It's a nerve-racking, delicate process. Hundreds of separate commands must be entered, rehearsed, and refined. Many changes are often entered at the last minute; the clock keeps ticking away.

Judging begins two days before the parade. Tension is high; the float must meet the same standards applied to the highly budgeted, professionally built floats. Each year, the competition becomes more intense. The students will have to wait until the morning of the parade to hear the results. The float must be moved once again. This time to its assigned position in the formation area. It must be in place by three a.m. on the morning of the parade. Even at this late date, students scramble about. Detailing the flowers, fine tuning the computer and engines, checking hydraulic and electrical systems. Traditional spots on the parade route are secured and then the final, sleepless, vigil. At precisely 8:30, the heralding trumpets signal for the parade to begin. Will another trophy be added to the Cal Poly collection? Sometimes, there's disappointment, but more often than not, a trophy is awarded. However, banners or no, the real rewards are about to come.

What is the Cal Poly Rose Float all about? To be part of the Tournament of Roses Parade and demonstrate Cal Polys tradition of technical ingenuity and team building spirit to the millions of viewers around the world. To share with friends the sense of pride and accomplishment that comes from standing back and viewing the fruits of one's labor. That's the big moment everyone has worked so long and hard for. And that's what the Cal Poly Rose Float is all about.

End of recording

Index

	<u>Page Number</u>
California Polytechnic State University, San Luis Obispo	1
California State Polytechnic University, Pomona	1
Float Construction	2-3
Flower Growing	2
Judging	3
Pasadena, California	1, 3
Student Training	2